



## Ultrasonic Sensor UP30

Contact-free level measurement with ultrasonic technology.

The UP30 ultrasonic level sensor exploits its strengths in particular in smaller pressurised containers, where it is neither influenced by heavy contamination nor media deposits and monitors both limit levels and continuous filling heights regardless of the electrical properties of the media – contact-free and reliably.

The ultrasonic sensor cyclically emits short, high-frequency sound pulses. These are radiated at the speed of sound. They are reflected when they meet the surface of the medium and return to the ultrasonic sensor in the form of an echo. The ultrasonic sensor calculates the distance from the time elapsed between emission of the sound pulses and receipt of the echo signals. This is provided to users as both an analog level signal and a switching signal.

### Features:

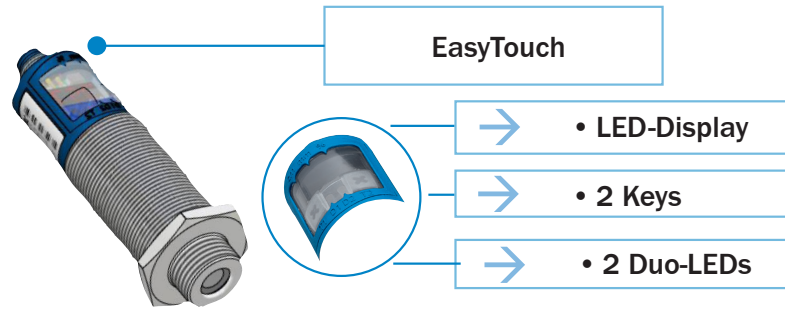
- UP30 is available with two switching outputs or as versions with one analog and one switching output.
- The sensors are adjustable manually using the numerical LED-display or may be parameterized using Teach-in processes.
- Useful additional functions are set in the Add-on-menu.
- Using the Control+ adapter (optional accessory) all TouchControl and additional sensor parameter settings may be made by a Windows-Software

### Benefits

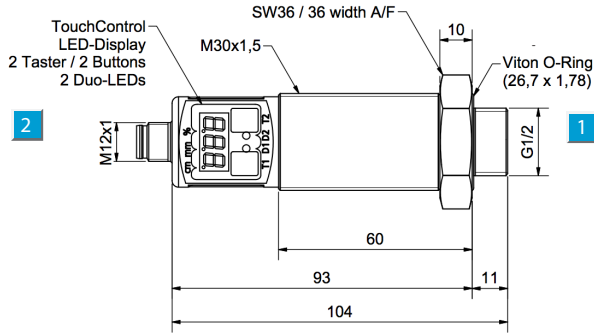
- Non-contact level measurement up to 500 mm
- Display for rapid and flexible adjustments
- A single sensor provides analog and switching outputs
- Measurement in small pressure containers up to 6 bar



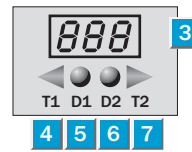
**SICK**  
Sensor Intelligence.



**Dimensions**



**Adjustments possible**



- 1 Process connection G1/2 or 1/2" NPT
- 2 Connection plug M12
- 3 Control and display panel
- 4 Setting key 1
- 5 LED 1
- 6 LED 2
- 7 Setting key 2

**Technical Data**

Model Name	UP30-2111_2	UP30-2111_4	UP30-2111_8
Operating distance	30 ... 500 mm (700mm)	30 ... 500 mm (700mm)	30 ... 500 mm (700mm)
Ultrasonic frequency	320 kHz	320 kHz	320 kHz
Resolution	0.18 mm	0.18 mm	0.18 mm
Reproducibility	± 0.15 %	± 0.15 %	± 0.15 %
Accuracy <sup>1)</sup>	≤ 2 %	≤ 2 %	≤ 2 %
Supply voltage V <sub>S</sub> <sup>2)</sup>	DC 9 ... 30 V	DC 9 ... 30 V	DC 9 ... 30 V
Residual ripple	± 10 %	± 10 %	± 10 %
Current consumption <sup>3)</sup>	≤ 80 mA	≤ 80 mA	≤ 80 mA
Switching outputs, reversible <sup>4)</sup>	Q1, Q2: PNP	Q1, Q2: NPN	PNP: UV - 2 V, I <sub>max</sub> = 200 mA
Analog output, reversible <sup>4) 5)</sup>	-	-	QA: 4 ... 20 mA/0 ... 10 V
Response time <sup>6)</sup>	110 ms	110 ms	110 ms
Switching frequency	6 Hz	6 Hz	6 Hz
Switching hysteresis	3 mm	3 mm	3 mm
Standby delay	< 300 ms	< 300 ms	< 300 ms
Connection type	M12, 5-polig	M12, 5-polig	M12, 5-polig
Enclosure rating	IP 67	IP 67	IP 67
Ambient temperature	Operation -25 ... +70 °C Storage -40 ... +85 °C	Operation -25 ... +70 °C Storage -40 ... +85 °C	Operation -25 ... +70 °C Storage -40 ... +85 °C
Ultrasonic convertor	PTFE-foil, Viton-O-Ring	PTFE-foil, Viton-O-Ring	PTFE-foil, Viton-O-Ring
Process connection	G 1/2, 1/2" NPT	G 1/2, 1/2" NPT	G 1/2, 1/2" NPT
Pressure resistance/ area of use	0.5 - 6 bar gauge pressure	0.5 - 6 bar gauge pressure	0.5 - 6 bar gauge pressure
Weight	150 g	150 g	150 g
Housing material	Stainless steel 1.4571, PBT, TPU	Stainless steel 1.4571, PBT, TPU	Stainless steel 1.4571, PBT, TPU

<sup>1)</sup> Temperature compensation (can be switched off), or without temperature compensation 0.17%/°K

<sup>2)</sup> Limit values

<sup>3)</sup> Without load

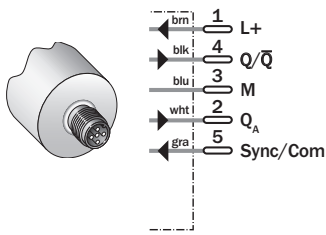
<sup>4)</sup> Outputs short-circuit protected

<sup>5)</sup> Automatic switching between voltage and current outputs dependent on load  
 4 ... 20 mA: R<sub>L</sub> ≤ 100/ at 9 V ≤ U<sub>B</sub> ≤ 20 V;  
 R<sub>L</sub> ≤ 500/ at U<sub>B</sub> ≥ 20 V;  
 0 ... 10 V: R<sub>L</sub> ≥ 100 k/ at U<sub>B</sub> ≥ 15 V, short-circuit protected

<sup>6)</sup> Recovery time 32 ms ... 180 ms according to EMV EN 50319

Connection type

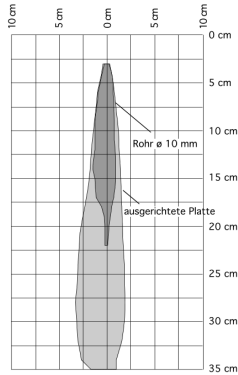
5-pin, M12



Order information

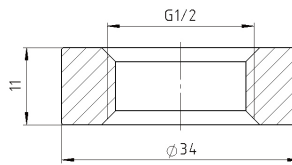
Part-No.	Model Name	Output	Process connector
6037768	UP30-211118	1 analog, 1 switch	G 1/2
6039674	UP30-211112	2 switch PNP	G 1/2
6039675	UP30-211114	2 switch NPN	G 1/2
6039786	UP30-2111A8	1 analog, 1 switch	1/2" NPT
6039784	UP30-2111A2	2 switch PNP	1/2" NPT
6039785	UP30-2111A4	2 switch NPN	1/2" NPT

Detection range



Accessory

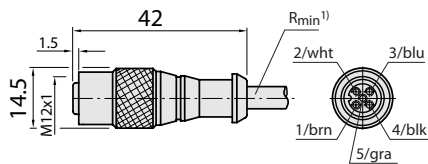
Part-No.	Model Name	Description
6037782	Connect +	Software incl. adapter, cable & CD-Rom
4057890	Welded flange G 1/2	Material 1.4404



Cables and connectors

Female connector M12, 5-pin, straight, 5 x 1 mm<sup>2</sup>, sheath PVC

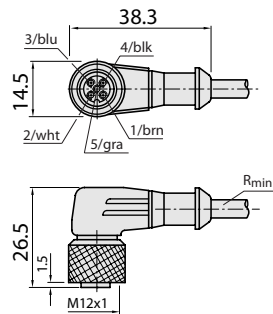
Part-No.	Model Name	Contacts	Cable length
6008899	DOL-1205-G02M	5	2 m
6009868	DOL-1205-G05M	5	5 m
6010544	DOL-1205-G10M	5	10 m



<sup>1)</sup> Minimum bend radius in dynamic use  
R<sub>min</sub> = 20 x cable diameter

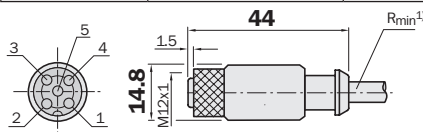
Female connector M12, 5-pin, angled, 5 x 1 mm<sup>2</sup>, sheath PVC

Part-No.	Model Name	Contacts	Cable length
6008900	DOL-1205-W02M	5	2 m
6009869	DOL-1205-W05M	5	5 m
6010542	DOL-1205-W10M	5	10 m



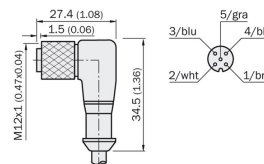
Female connector M12, straight, 5 x 1 mm<sup>2</sup>, sheath PUR halogenfree

Part-No.	Model Name	Contacts	Cable length
6025906	DOL-1205-G02MC	5	2 m
6025907	DOL-1205-G05MC	5	5 m
6025908	DOL-1205-G10MC	5	10 m



Female connector M12, 5, angled, 5 x 1 mm<sup>2</sup>, sheath PUR halogenfree

Part-No.	Model Name	Contacts	Cable length
6025909	DOL-1205-W02MC	5	2 m
6025910	DOL-1205-W05MC	5	5 m
6025911	DOL-1205-W10MC	5	10 m



Dimensions in mm (inch)

<sup>1)</sup> Minimum bend radius in dynamic use  
R<sub>min</sub> = 20 x cable diameter

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